1) **The finality of the last office action has been withdrawn in view of the application of newly cited Wagers et al (US 5,525,414). Prior art rejection using Wagers et al is forth below.**

2) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3) **Claims 1-4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martino et al (US 5,120,780) in view of Vinamul technical bulletin (date 1991) and Wagers et al (US 5,525,414) and optionally in view of at least one of Hayes et al (US 5,362,515) and Reichel (US 3,665,027).**

Martino et al, directed to a glass fiber sizing composition, discloses an aqueous composition comprising polyvinylacetate film former, lubricant additive (organo silane compound having formula I) and coupling agent (organosilane such as gamma-methacryloxypropyltriethoxy silane and 3-aminopropyltriethoxy silane) (col. 2 lines 40-56, col. 6 lines 14-29). Other conventional glass forming size additives such as plasticizers, surfactants, emulsifiers, antistatic agents, wetting agents, etc. may be included in the sizing composition (col. 6 lines 35-38). Acetic acid is used to adjust the pH to 5 to 6.5 (col. 6 lines 30-34). Martino et al does not recite "polyvinyl acetate / silane copolymer".

As to claim 1, it would have been obvious to one of ordinary skill in the art to use "polyvinyl acetate / silane copolymer" as the film former in Martino et al's sizing

composition for glass fibers since Vinamul technical bulletin suggests using RESYN 1037 (25-1037), which comprises vinyl acetate copolymer emulsion containing silane, as a forming size binder for glass roving since the silane group provides excellent adhesion to glass. Vinamul motivates one of ordinary skill in the art to include RESYN® 1037 (25-1037), which comprises vinyl acetate copolymer emulsion containing silane in Martino et la's glass fiber sizing composition because Vinamul teaches that it is a size binder for glass fiber roving which excellent adhesion to glass. With respect to "compatible interface", **there is no difference between RESYN® 1037 (25-1037) disclosed by Vinamul and the claimed "polyvinyl acetate/silane copolymer".** It is emphasized that "RESYN® 1037 (25-1037)" by Vinamul Polymers is the same as "Vinamul 25-1037 PVAC copolymer (Vinamul Polymers, Woodruff, S.C.)", which is described in the specification as being an example of the claimed polyvinyl acetate / silane copolymer (page 7 lines 1-6 of the specification). In other words, the claimed "polyvinyl acetate / silane copolymer" reads on "RESYN® 1037 (25-1037)" by Vinamul Polymers.

With respect to "phenolic compatible silane" (claim 1), this reads on Martino et al's coupling agent / adhesion promotor such as gamma-methacryloxypropyltriethoxy silane and 3-aminopropyltriethoxy silane.

With respect to "non-ionic surfactant" (claim 1), it would have been obvious to one of ordinary skill in the art to use non-ionic surfactant in Martino et al's size composition since (1) Martino et al, directed to an aqueous sizing composition for glass fibers, teaches that other conventional glass forming size additives such as plasticizers,

surfactants, emulsifiers, antistatic agents, wetting agents, etc. may be included in the sizing composition (col. 6 lines 35-38) and (2) Wagers et al, also directed to aqueous sizing composition for glass fibers (col. 4 lines 35-40), teaches including a wetting agent such as nonionic surfactant in the aqueous sizing composition to reduce surface tension of the size and promote more even distribution of the size material on the fibers (col. 4 lines 35-40).

With respect to "defoamer" (claim 1), it would have been obvious to one of ordinary skill in the art to include defoamer in Martino et al's size composition since (1) Martino et al, directed to an aqueous sizing composition for glass fibers, teaches that other conventional glass forming size additives such as plasticizers, surfactants, emulsifiers, antistatic agents, wetting agents, etc. may be included in the sizing composition and (2) Wagers et al, also directed to aqueous sizing composition for glass fibers (col. 4 lines 35-40), teaches that defoamers may also be included in the sizing composition (col. 4 lines 28-35) and optionally (3) Hayes, also directed to an aqueous sizing composition, teaches that materials typically found in prior art sizing compositions include defoaming surfactants and other surfactants (col. 6 lines 46-55).

As to claim 1, the description of "binder slurry for a continuous filament mat used in a phenolic pultrusion process" (lines 1-2 of claim 1, emphasis added) relates to *intended use* and fails to require a composition different from that suggested by the applied prior art. Furthermore, the description of "a binder slurry for continuous filament mats used in a phenolic pultrusion process, wherein said process includes applying said binder slurry to sized continuous fiber strands forming said continuous filament mat prior

to said continuous filament mat being dipped in a phenolic bath" (lines 7-10 of claim 1, emphasis added) relates to *intended use* and fails to fails to require a composition different from that suggested by the applied prior art.

Claim 1 is directed to a **binder slurry composition** instead of a **process or using the binder slurry**. Claim 1 fails to require a method comprising the step of applying the binder slurry to sized continuous fiber stands forming a continuous filament mat and dipping the mat in a bath of phenolic resin systems. Claim 1 reads on using the binder slurry as a sizing agent. None of the pending claims exclude *using* the claimed binder slurry as a size composition. None of the pending claims exclude *using* the claimed binder slurry in a process including directly applying the claimed binder slurry to glass fibers.

As to claim 2, Martino et al's aqueous composition comprises water.

As to claim 3, it would have been obvious to one of ordinary skill in the art to use acetic acid such that the pH is 4-6 as claimed since Martino et al suggests obtaining a desired pH of 2-7 (e.g. 5-6) for the aqueous composition comprising polyvinylacetate film former using acetic acid (col. 6 lines 30-35).

As to claim 4 (gamma-aminopropyl trimethoxy silane respectively), see col. 6 lines 18-29 of Martino et al. In any event: it would have been obvious to one of ordinary skill in the art to use gamma-aminopropyl trimethoxy silane in Martino et al's composition since (1) Martino et al teaches using an adhesion promoter in the composition and (2) Reichel teaches gamma-aminopropylalkoxysilanes as being useful as an adhesion promoter.

As to claim 15, it would have been obvious to one of ordinary skill in the art to provide Martino et al's composition such that it contains 0.6-4% copolymer, 0.1-0.6 % silane and 0.001-0.05 % non-ionic surfactant and 0.005-0.05% defoamer in view of (1) Martino et al's teaching to use 0.2-20 % of the polyacetate film former and 0-3 % adhesion promoter (silane) in the aqueous sizing composition, (2) Wagers et al's teaching to include wetting agent such as nonionic surfactant in the aqueous sizing composition to reduce surface tension of the size and promote more even distribution of the size material on the fibers and (3) Wager et al and optionally Hayes et al's suggestion to include defoamer in an aqueous sizing compositions for fibers. In other words, the optimum amounts of copolymer, silane, non-ionic surfactant and defoamer would have been obvious and could have been determined without undue experimentation in view of the teachings of the applied prior art.

Remarks

4) Applicant's arguments with respect to claims 1-4 and 15 have been considered but are moot in view of the new ground(s) of rejection.

Mohr (US 3,865,768), which is discussed by Martino et al at col. 1 lines 66-68, col. 2 lines 1-5, is cited of interest.

5) No claim is allowed.

6) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven D. Maki/
Primary Examiner, Art Unit 1791

Steven D. Maki
September 24, 2008